**Fig. 1 – Project Lifecycle**

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| 1 | Non-approval of scope of works by Stakeholders / Client or changes ordered by Client. | * Project delays * Project in jeopardy | M | H | Ensure that Client is content with the scope of works, give Client as much information and review time. Ensure that Client certifies that the scope is actually what he/she wants. Do not allow many representatives from the Client’s office to intervene, seek approval from the Client for a single entity to make changes and aid in the scope development. | L | M | NPMC / MOW&T |
| 2 | Non-approval or late approval from relevant statutory authorities and agencies; Town & Country, WASA, T&TEC, TSTT, Ministry of Works and Transport, EMA, Regional corporation(s), Public Health, Fire Services et al. | Works cannot be certified and works cannot commence in some (or most) instances. | M | H | * Ensure that all approving authorities, Ministries and statutory authorities grant approval or even outline approval prior to the commencement of the works. * Prepare a checklist for approvals. | L | H | NPMC |
| 3 | Non-securing of funding for project. | Cannot commission Consultants, Contractors or Suppliers. Works cannot continue, Claims may arise. | M | H | Ensure that the Client secures the requisite funding for the required works and services. Alternatively ensure funding is secured for each stage of the project life cycle. | L | M | Client |
| 4 | Non-agreement on Procurement route regarding various specialists who are required. i.e. Structural, Quantity Surveyors, Services, etc. | Delays in procuring required expertise. Best suited consultants, quantity surveyors etc. would not be selected for the required works. | L | H | Obtain agreement internally (i.e. at NPMC ) pertaining to the method of procurement for the expertise that will be required. Review of best procurement approach in the selection of consultants, quantity surveyors et al to undertake the works. | L | H | NPMC |
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| 1 | Non-timely procurement of Consultants & Quantity Surveyors | Designs cannot proceed and be completed in a timely manner. | L | H | Ensure that suitable personnel, consultants, quantity surveyors etc. are selected through the company’s procurement process. Ensure that all contracts are suitable and sound. | M | H | NPMC |
| 2 | Non-selection of proper contract form(s) | Poorly written contract forms, or inappropriate contract types would result in difficulties in enforcement of requirements to achieve planning success. | L | H | Hold discussions regarding the contract selection for the relative disciplines and ensure that there are solid clauses within those contracts. Obtain approval from the Tenders Committee for applicable contract form(s). | M | H | NPMC |
| 3 | Lack of coordination with consultants & quantity surveyors etc. | Tardy delivery of designs, designs which are inconsistent with Client requirements and omissions. | L | H | Periodic and consistent review of consultant(s) designs and deliverables to ensure that it is in keeping with the Client’s requirements, user brief and scope of works. | M | H | NPMC |
| 4 | Lack of communication systems between all parties involved | Communication breakdown, lack of information sharing. | L | H | * Ensure that there is a proper communication sharing system. * Ensure all parties “buy-into” communication sharing. * Define communication means at project start for each reporting level. | L | H | NPMC/Consultants/Client |
| 5 | Confusion or conflicts regarding roles and responsibilities | Conflicts regarding roles and responsibilities, overlapping responsibilities and omission of important items of work due to unclear roles being defined. | M | H | * Clearly define organisation structure(s) for project. * Clearly define roles and responsibilities and ensure that all parties are aware of their roles, responsibilities and Clients expectations from each entity. | L | H | Client/NPMC |
| 6 | Non-achieving of milestones | Project delays. | M | H | * Ensure that contracts explicitly state that project delays would be unacceptable and include for penalties. * Payments could be made based on achieved milestones. * Careful monitoring of programme(s) of works. | L | H | NPMC\/ Consultants/ Architects/ Quantity Surveyors/ et al |
| 7 | Lack of Information sharing | Disconnect between all parties involved. Delays in project. | M | H | Develop information sharing mechanism for project which is accessible for all parties. | M | H | All Parties – Client/ NPMC/ Consultants et al. |
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| 8 | Document management & record keeping | * Loss of important information * Failure in document management * Transferability of information is hindered | L | H | * Ensure proper records are kept, ensure filing is adequately undertaken. * Ensure that there is quick, defined and accurate dissemination of information. | L | H | NPMC |
| 9 | Timely payment for consultants and quantity surveyors | * Delays in issuance of deliverables. * Litigation & Claims | M | H | * Ensure that the Client secures the required funding prior to the engagement of services from various parties. * Ensure all necessary paper work is processed in a timely manner so that payments can be made to the relevant consultants, architects et al. * Ensure payments are available and processed and paid within the Fiscal period. | L | H | Client / NPMC |
| 10 | Management of Client changes (design preferences) | Design changes and cost increases, project execution delays. | M | H | * Ensure that Scope of Works is approved by the Client and create change order process. * Ensure proper documents are kept as it pertains to variations / changes at the design stage. * Develop standardized forms for changes, which includes, cost, time and other increases if necessary (vice versa as well). | M | M | Client / NPMC |

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| 1 | Lack of coordination with contractor, consultants and other agencies. | * Conflict between entities * Sabotage of one another’s works * Delays in information sharing * Adversarial relationships, conflicts and breakdown in project goals | M | H | * Ensure there is information sharing, i.e. schedule of works, work strategies etc. * Hold regular coordination meetings with all entities. * Ventilate all areas of conflict at meetings and ensure that there is resolution. | M | H | NPMC / All Consultant(s)/ Contractor(s) |
| 2 | Lack of monitoring during work execution | * Poor quality of works * Time delays * Re-work * Increase in cost due to increase supervision fees | M | H | * Consistent review of all contractors and consultants through project appraisals. * Ensure NPMC has personnel available to monitor all aspects of the works for verification purposes. * Ensure there are quality control and quality assurance processes throughout construction. * Ensure proper site records are maintained. * Tracking of programme of works. | M | H | NPMC / All  Consultant(s)/  Contractor(s) |
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| 3 | Consistent unfavorable weather conditions | * Cannot access the site(s). * Delays in project execution process. * Project failure | M | H | * Ensure work programme caters adequately for unfavorable weather conditions i.e. schedule works accordingly. * Keep proper records for lost time, i.e. rain days, ordered work stoppages etc. * Monitor tide tables. | L | H | NPMC/ Consultant(s)/  Contractor(s) |
| 4 | Poor material selection that may deteriorate rapidly | * Poor quality works * Re-work | H | H | * Implement quality assurance and quality control mechanisms throughout the duration of the project and more importantly before installation of materials. ***Select materials suited for the environment which it is to be installed.*** | M | H | NPMC/  Consultant(s)/  Contractor(s) |
| 5 | Civil strife or protests etc. | * Delay in the project completion * Damage of works that are complete * Re-work * Increase in cost | L | H | * Ensure that there is a plan which caters for protest and strife matters and that all parties are aware of the plan and their roles should such matters arise. * Ensure contract form caters for Force Majeure. | L | H | All Parties |
| 6 | Client instructed variations | * Delays in completion of works * Cost increase * Claims | H | H | * Ensure that there are mechanisms for project variations from the Client. Ensure funding is available for such changes and approval is given in writing. * Ensure extension(s) of time are properly evaluated and awarded in a timely manner and logged. * Ensure there are revised Programme(s) of Works to reflect project duration changes. | M | H | Client/ NPMC |
| 7 | Material price increases | * Delays in the works * Project cost increases | M | H | * Ensure that the relevant clauses are written in to the various contracts. * Contractors to cater for price increases in their Bids. * Monitor price changes in the local construction market. | L | H | NPMC / All Consultants/ Contractors |
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| 8 | Timely payment of Contractors, suppliers etc. | * Work stoppage, project delays * Claims and Litigation | M | H | * Ensure that payments are certified and made in a timely manner. * Ensure that all funding required for the execution stage has been secured by the Client. | L | H | Client/ NPMC |
| 9 | Problems with material being shipped from out-side of Trinidad and Tobago. | * Delays in works and project delivery | M | H | * Identify all materials, plant and equipment that are required for the works at the early stages of the project. Include for the ordering, manufacture, shipping, customs clearing and delivery to site in work programme. * Assist where practicable with the clearing from the local port of entry and requisite tax charges. * Monitor any delays as a result of Port and Customs and Excise. | L | H | Contractor |

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| 1 | Non-preparation of “As Built” Drawings. | * No certification of completion | L | H | * Ensure the “As Built” drawings are prepared and submitted in a timely manner. | M | H | NPMC/ Consultants |
| 2 | Defects appear after the execution stage. | * Re-work * Stakeholder complaints | L | H | * Ensure the defects liability / maintenance period is sufficient and that there is adequate penalties for non-adherence to contract requirements. * Address defects in a timely manner. | M | H | NPMC / All Consultants/ Contractors |
| 3 | Commissioning of plant and equipment. | * Re-work * Delays in final certification | L | H | * Ensure that adequate testing is done prior to hand-over. * Seek independent testing and calibration where necessary. | M | H | NPMC / All Consultants/ Contractors |
| 4 | Final payments. | * Claims and litigation | L | H | * Ensure all funding is available for project. * Ensure all parties are remunerated in a timely manner. | L | H | Client/ NPMC |